

**INCOME GENERATION THROUGH AMARANTHUS (MCHICHA)  
FARMING CULTIVATION: A CASE OF WOMEN GROUPS AT  
YANGEYANGE STREET IN DAR ES SALAAM CITY**

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**CERTIFICATION**

The undersigned certifies that he has read and does hereby recommend for acceptance by The Open University of Tanzania a dissertation titled; **“Income Generation Through Amaranthus (*mchicha*) Farming: A Case of Women Groups at Yangeyange Street in Dar es Salaam City”**, in partial fulfilment of the requirements for the degree of Master of Community Economic Development (MCED) of The Open University of Tanzania.

.....

**Prof. Emmanuel Nyankweri**

**(Supervisor)**

.....

Date

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I, **Agnes Salatiel Kayombo** declare that the work presented in this dissertation is original. It has never been presented to any other University or Institution. Where other people's works have been used, references have been provided. It is in this regard that I declare this work as originally mine. It is hereby presented in partial fulfilment for the degree of Master of Community Economic Development (MCED) of The Open University of Tanzania.

.....

Signature

.....

Date

**DEDICATION**

This work is dedicated to my beloved children Allena Jumanne Rashid and Allan Jumanne Rashid, to my late further Salatiel Francis Kayombo and twin sister Maria Salatiel Kayombo for their untiring support and huge sacrifices to make sure I complete this course. The last dedication goes to my family at large, my friends and those who wished me good during my dissertation.

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## ABSTRACT

This study is the product of CED student which aimed to increase household's income to women of Yangeyange street in Msongola ward at Dar es Salaam City Council. The study carried participatory community needs Assessment. This assessment was conducted through identification of community needs in improving income. The study involved collection of data through questionnaires. The study revealed that, mchicha production project was economically practicable and implementable to women of Msongola. The goals which were implemented included the govern of resource mobilization, to investigate the market strategies to be used by women engaged in amaranthus cultivation to maximize sales and earn income as well as to identify the challenges and opportunities facing women farmers cultivating amaranthus at Yangeyange Street in Dar es Salaam City. All this was conducted through capacity building to women. the expected result was to increase production of mchicha and earn income. All objectives were met on recourse mobilization, marketing strategies for maximizing sales as well as solution towards the challenges faced by mchicha growers of Yangeyange Street. Also, women need affordable loans to boost their business and more knowledge on business and entrepreneurship in order to increase productivity and sales.

***Keywords:*** *Mchicha production project, household's income, women of Yangeyange street, Dar es Salaam City*

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**LIST OF ABBREVIATIONS**

BA	Beneficial Appraisal
CAN	Community Needs Assessment
CBO	Community Based Organization
CDAC	Community Development Agenda Countrywide
CDO	Community Development Officer
CED	Community Economic Development
DED	District Executive Director
NGO	Non-Government Organization
OUT	Open University of Tanzania
PRA	Participatory Rural Appraisal
PSSN	Productive Social Safety Net
SPSS	Software Statistical Package for Social Science
TAP	Tanzania Agriculture Partnership
TASAF	Tanzania Social Action Fund
VEO	Village executive officer
VICCOBA	Village Community Banking
WEO	Ward Executive Officer

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background Information**

Green vegetables, including amaranth, which is commonly known as "mchicha" in Swahili, are part of a nutritious diet that is rich in protein and micronutrients such as zinc, calcium, magnesium, phosphorus, folic acid, potassium, iron and vitamin A-C (Ruth et al., 2021).

Women in many communities around the world engage in various economic activities, including amaranth cultivation and others, to generate income. The study under review presents the findings of a participatory needs' assessment conducted in Dar es Salaam.

*Amaranthus (Mchicha)* is the most popular green vegetable cultivated by many households living in Dar es Salaam. Seasonal rains, water from rivers/streams, wells and dams are major sources of water used for irrigation. In Yangeyange Street located at Msongola Ward in Ilala City Council, women involve in cultivation of *Amaranthus (Mchicha)* due to the huge consumption demand of green vegetable. The Msongola Ward is one the most densely populated localities in the Dar es Salaam Commercial City.

#### **1.2 Community Profile**

Vegetables are an important part of the diet and source of income for many Tanzanians. In most areas of Tanzania, the production and consumption of



vegetables has increased significantly, forcing the authorities to allocate land for growing vegetables, and amaranthus is no exception. Cheya & Guarino (2012) report that vegetables constitute the majority of non-traditional crops sold in local markets and have contributed significantly to the income of smallholder farmers specifically married women. Many households are engaged in vegetable cultivation. Their age of people involved range between 18 and 45 years old. Vegetable production attracts both male and female although women are dominant compared to men. This is due to the fact that, most of men who are in the crop value chains work around market areas of Dar es Salaam - Kariakoo, Tandika, Mbagala Rangitatu, Mbande, Kijichi and several others. Unmarried women form the bulk of those who commit themselves into vegetable cultivation business as their bread earning source (Amusan & Chukwi, 2014).

### **1.2.1 Location**

Yangeyange Street is among the five streets located in Msongola ward within Ilala division in Dar es Salaam City. Other streets include Mvuleni, Mbondole, Kitonga and Kivule. The Yangeyange is located 25.8km from City Centre.

### **1.2.2 Geographic Location**

The Street is situated at 6.97 Latitude South of Dar es Salaam and at 39.18 Longitude East of Dar es Salaam.

### **1.2.3 Climate and Precipitation**

The city has humid temperatures that vary from 260 C in August to 350 C in December and January. The long rainy season runs between March and May with an

average monthly rainfall record of between 150 mm and 300 mm. The short rain season is experienced between October and December with average monthly rainfall records ranging from 75 mm to 100 mm.

#### **1.2.4 Population**

Msongola is an administrative ward in the city of Dar es Salaam. According to the 2022 census, the ward has a total population of 24,461 of which 12,147 are males while 12,314 are females and 5,704 households (Socio-Economic Dar es Salaam City Profile, 2022).

#### **1.2.5 Irrigation Farming**

The city of Dar es Salaam has a total of 4,000 hectares of irrigation potential. Currently, however, only 66 hectares are irrigated using seasonal and permanent flows, deep and shallow wells.

#### **1.2.6 Capital**

Capital is the main stumbling block that frustrates many women involved in vegetable farming compared to men who have access to key productive assets, which include administrative support such as credit, income enhancement and welfare. Women face wage inequalities in employment and regularly work without compensation on family land, which limits their ability to take advantage of new opportunities (Walsh, 2013). Women who produce and trade vegetables earn an income that gives them access to better health care, education and housing; and enables women to exercise a certain degree of financial independence in the family

budget. At this level, capital is increased to include income contribution and help women to carry out more developed cultivation (ibid.).

Many women are engaged in growing amaranth vegetables for economic reasons. Many women have learned from family members that growing and trading amaranth vegetables can be a profitable business. According to Chika and Taremwa (2012), some women started producing vegetables after seeing the family income drop sharply, while others wanted to earn money by selling it in the market due to the high demand for vegetables in Dar es Salaam city. However, most of them lack the capital for the amaranth (Mchicha) farming chain – cultivation, seeds, fertilizers, land lease and transport.

Land limitations mean they can only produce a limited amount of vegetables. Moreover, they only have to cultivate the land nearby, because thieves steal vegetables far from home. In addition, women who grow amaranth are limited by a lack of capital to purchase horticultural equipment, pesticides, and rent land. Also, married women who engage in vegetable cultivation and earn money from such business enable them to access services such as health, education for their children and household water supply (Kansiime et al, 2021).

### **1.2.7 Availability of Markets**

Local amaranth markets are mostly run by women and children to meet daily basic needs. Limited markets and a lack of accessible roads to urban centers limit the amount of vegetables; otherwise, they suffer severe post-harvest losses (Chadha and

Oluoch, 2012). When vegetables are grown in large quantities and by many people, we don't get a market for them because of too many vegetables, so we sell them at lower prices or even waste them (ibid.).

Women growing amaranth sometimes harvest more than they can use, and because they are unable to bring to urban markets where the vegetable is in high demand, they are left with vegetables that often spoil (Robynne & Anderson, 2012). There is a need to strengthen transportation and provide some storage facilities that can prolong the freshness of these vegetables such as amaranthus (Mchicha), even if it requires the use of some investment money.

In some cases, women grow, harvest, pack and transport amaranth vegetables to the nearest markets and strategic wholesale urban markets (ibid.). Sometimes the women don't even have to go to the market because customers come to harvest them from their gardens. But here women face the problem of not realizing the market price and end up selling at low cost. Customers go to the farm, negotiate the price with the farmer, while the farmer has no or limited information about the market price, and collect the vegetables from the farm (Chadha and Oluoch, 2012). In addition, some women choose to sell vegetables on the streets because they have no means of transportation. This is because amaranth leafy greens are very perishable.

### **1.2.8 Technical Knowledge and Skills**

Proper amaranth cultivation technical knowledge and skills such as harvesting at the correct stage of maturity, using appropriate sowing (or planting) dates, proper plant

spacing, fertilizer rates, site selection, weed control, irrigation strategies, pest and disease protection help reduce unnecessary costs (Gahakwa & Kalihose, 2011). This means that agronomic skills must be properly linked with good marketing skills of amaranth, which tends to contribute to the income of married women.

Women who cultivate amaranthus often have low levels of education and may rely on small and local irrigation farming systems, according to Goman and Folaya (2016). In a group of seven members, none have obtained a diploma or degree in agriculture. This lack of education and skills can lead to increased costs and difficulty in managing their time effectively. However, by gaining the proper skills and knowledge in amaranthus cultivation, these women can optimize their use of resources and increase their income generation.

Additionally, many women who grow amaranthus have very little training; specifically, about cultivation, vegetable garden care, harvesting and post-harvest techniques (Tao, 2013). The knowledge used to grow amaranth (Mchicha) comes from the traditional knowledge of the "elders", although few receive practical farming training from NGOs operating through MVIWATA, a national network for farmers' groups in Tanzania.

### **1.3 Community Need Assessment**

A community needs assessment was conducted in collaboration with community members, Yangeyange Street Chairman, Street Executive Officer (VEO) and vegetable growers. The evaluation focused on amaranth cultivation among women.

## **1.4 Community Need Assessment Objectives**

### **1.4.1 General Objectives**

To assess the income generation through Amaranthus (*Mchicha*) cultivation by women at Yangeyange Street in Dar es Salaam City.

#### **1.4.1.1 Specific objectives of Community Need Assessment**

- i) To determine the extent of resources mobilization among women engaged in the cultivation of amaranthus
- ii) To investigate the marketing strategies used by women engaged in amaranthus cultivation to maximize sales and earn income at Yangeyange Street in Ilala City Council
- iii) To identify the challenges and opportunities facing women farmers cultivating amaranthus at Yangeyange Street in Dar es Salaam City.

## **1.5 Research Questions**

- i) What is the extent of resource mobilization among women engaged in the cultivation of amaranthus at Yangeyange Street in Ilala City Council?
- ii) What are the marketing strategies used by women engaged in amaranthus cultivation to maximize sales and earn income at Yangeyange Street in Ilala City Council?
- iii) What are the challenges facing married women embarking on amaranths vegetable cultivation at Yangeyange Street in Ilala City Council?

## **1.5.1 Research Methodology**

### **1.5.1.1 Research Design**

The study used a cross-sectional study design for both quantitative and qualitative approaches to obtain relevant and valid information from the target respondents using questionnaire, interview and focus group discussion.

The study adopted the case study research design to look the relationship among variables in detail of amaranthus at Yangeyange Street. Descriptive (qualitative) research was used since it was accurately and systematically described a population, situation or phenomenon.

### **1.5.1.2 Sampling Techniques**

The researcher used both probability and non-probability sampling techniques to obtain respondents who provided the intended answers to the research questions. For probability sampling, a cluster sampling used for women who dealt with amaranthus cultivation then randomly sampling was applied to get a required sample size. The method was accurate, easily accessible and relevant to the cluster. Also, Purposive sampling was also used for non-probability sampling. Then, Ward Officers, Village Executive Officers and Leaders of VICCOBA were selected purposely since they had unique posts within the community. And those sampling techniques were important for providing the chance of selecting respondents who were familiar with the project and enabled researcher to collect important information related to study.

### **1.5.1.3 Data Collection Methods or Technique**

The researcher used observation, structured interview and questionnaire as the tools

for data collection from sampled married women who dealt with cultivation of Amaranthus in Dar es Salaam.

**Observation:** The researcher utilized observation as a research method (Kothari, 2011) and actively participated in the farming process from resource mobilization to farm preparation, harvest, and sales of Amaranthus. This method enabled the researcher to closely observe and interpret the processes taking place during each stage of the farming process. Additionally, by participating in the farming activities, the researcher gained first-hand experience and insights into the challenges and opportunities faced by women engaged in Amaranthus farming. Overall, this approach allowed the researcher to enhance their awareness of significant processes and develop a deeper understanding of the research phenomenon.

**Questionnaire:** A questionnaire is a list of questions printed or written in a certain order on a form or set of forms (Saris and Gallhofer, 2014). In this method, questionnaires were sent to the individuals concerned asking them to answer the questions and returned (O'Leary, 2014). The questions were in Swahili and were given to Yangeyange street leaders, ward officers and some members who grow amaranthus mchicha). The researcher accepted that the questionnaire was quick, cheap and bias-free, gave respondents enough time to think about the questions and provided sufficient responses from a large sample.

**Structured Interview:** A conversation is a deliberate conversation between two or more individuals about a certain topic (Bell, 2011). In this study, focus groups were conducted throughout the farming cycle to gain insights from team members on



resource mobilisation, cultivation and sales. These discussions allowed the researcher to gather the perspectives of team members throughout the process, from start to finish (Yin, 2013). By conducting these group discussions, the researcher was able to gain a more comprehensive understanding of the processes and dynamics associated with Amaranthus breeding and how team members experienced and perceived these processes.

#### **1.5.1.4 Data processing and Analysis Methods**

The term data analysis refers to the calculation of certain measures along with the search for patterns of relationships that exist between groups of data. (Kothari, 2011). The identification of the main issues needed to consider for analysis of data were done to women dealing with production of Amaranthus vegetable. The researcher transcribed audio- recorded interviews and created a data file for analysis by computer. But some responses were short while others were open- ended questions.

The collected data were analyzed using the computer software Statistical Package for Social Science (SPSS) version 16. The data obtained from the research instrument such as questionnaire and in-depth interview were analyzed using descriptive statistics and represented using percentages, tables and graphs.

### **1.6 Community Needs Assessment Findings**

The Community Need Assessment findings provided an analysis focusing on policy, systems, environment for creation of positive and sustainable change to women who are dealing with amaranthus farming at Yangeyange Street in Dar es salaam City.

Women who are dealing with amaranthus(*mchicha*) cultivation were selected randomly.

### **1.6.1 Cultivation of Amaranthus by Women Has Led to the Increase of Income**

#### **Marital Status**

There is a positive relationship between marital status (married, single, divorce, widow) and vegetable growing. Women who are married have a possibility of being helped by their husbands in financial status and other activities like cultivation and weeding.

#### **1.6.1.1 Size of area for cultivation**

The availability of an adequate size of area for cultivation is related to the number of people employed in vegetable cultivation. The aim of the study was to find out whether married women had their own plots of land or whether they rented it by paying money for a specific planned period that required costs.

#### **1.6.1.2 Income Levels**

The study intended to obtain the married women income level in relation to the size of land to be secured for cultivating amaranthus/*mchicha*. The income level in the tabular form was ranged from less than 10,000 to 20,000 Tshs which is an average of 4 USD per day. This helped to determine respondents living below the poverty line in relation to amaranthus cultivation at Yangeyange.

Married women need financial support to carry out their normal responsibilities in amaranth cultivation. Women producing domestic vegetables need financial support

to increase production. This support can come in the form of irrigation materials, additional land, acquisition of various equipment.

### **1.6.1.3 Size of the Household**

Household means all persons who live in the same dwelling. The study investigated the relationship between household size and amaranth cultivation for income generation. The size of the house is closely related to the ability of the family to serve. Assuming that all households have the same level of income, then the higher the family size, the lower the service level. The size of households was grouped as 2 to 3, 4 to 5, and 6 and above.

### **1.6.1.4 Other Occupation**

The income generation of women through cultivation of amaranth/mchicha is highly linked with other activities they do like house work, petty business, poultry keeping, farming on small plots of other crops like maize and amaranth and other employment. At this point the study intended to find if other occupation can help the development of amaranth farming.

## **1.6.2 Access to Market of Amaranth Cultivated**

### **1.6.2.1 Effect of Market Access**

Limited market information and market access are two major barriers to increasing the income of amaranth farmers in Tanzania. The creation of a farmers' organization is one way to overcome the growth problems of amaranth vegetables by improving access to markets while reducing transaction costs. This study assessed the

accessibility of markets in Dar es Salaam. The aim of the study was to obtain information from at least 100 people related to amaranth vegetables through interview and questionnaire.

In addition, distance from market and transportation costs were assessed to see if they were statistically significant. Market access has a significant positive relationship with farm incomes, even if they have insignificant areas. Also, the cost of transporting vegetables to market and the distance varied between farmers between TZS. 3,000 and TZS. 4,000. Ensuring a market for their produce can lead female indigenous vegetable producers to exert more effort and increase crop production. Many women note that the absence of a market for much of what is grown often leads to reduced investment. Some women are discouraged from producing more by the market. By gaining a sufficient market, they can increase production and be able to sell in large quantities.

#### **1.6.2.2 Distance to A Market**

Market access is positively related to market distance. Distance from the market increases input costs, transport costs and reduces the effective price farmers receive for output. The distance from farm to market creates certain costs. The cost of transporting vegetables to market and the distance varies between farmers depending on the mode of transport chosen. But with such costs, farmers will get to the markets much better. In addition, the distance from the market creates insurance for the farmers when selling their products

### **1.6.2.3 Impact of Market Access Provided by Farmers' Organizations on Income**

Good access to market is a strong tool for farmers of vegetable. The government is supposed to provide environments that enable their farmers to be productive and to sell profitably. Access to market helps business scale production and increase product quality. But, in Dar es Salaam, markets are fragmented depending on the developed bi-laws.

### **1.6.2.4 Facilities and Markets**

Vegetables need a hygienic environment for operation because they are very delicate. Convenient equipment helps reduce contamination during processing. The right equipment helps to reduce the incidence of insects. Adequate and convenient parking is a must for vegetable operations. Parking should be within reasonable walking distance of the production site for customers. If parking is not available near the location, safe transportation to the pick-up locations should be provided.

## **1.7 Challenges Facing Married Women Who Cultivate Amaranths Vegetable At Yangeyange Street in Ilala City Council**

### **1.7.1 Community Needs Prioritization / Leveling of needs**

The community had a much different type of need in relation to amaranth cultivation for income generation when there is a surplus. Some of the needs include paying school fees for their children, health care, paying for health care costs, establishing activities that generate income, and meeting daily needs. Respondents had to rank the needs that determined the income contribution through Amaranth cultivation. The

results show that the introduction of income-generating activities to improve the income level was the first priority that women followed to exercise some degree of financial independence in the family budget, and the least is paying the health care costs for the family.

**Table 1.1: Community needs prioritization**

<b>Community needs</b>	<b>Ranking</b>	<b>Percentage</b>
Paying school fees for children	2	13.3
Meeting medical costs for the family	3	20
Establishing income generating activities to improve income level	1	6.6
Meeting daily needs	5	33.3
Women exercise a certain degree of financial independence in the family budget	4	26.6

**Source:** Field Data, 2022

## 1.8 Chapter Conclusion

Women home vegetable growers face many challenges, most of which stem from the absence of strong support from government agencies or development partners involved in rural development. On the other hand, rural women producing amaranth are not organized and are not able to present a strong platform that is able to influence political and project decisions on financial assistance. Forming groups and building cross-community networks will have a big impact on getting a voice in the community for married women producing amaranth vegetables. Strengthening the amaranth-producing capacity of married women and taking measures to expand the market is a key issue for the economic advancement of married women.

Amaranthus (*Mchicha*) cultivation has helped women to generate income that is used for family purposes including securing meal, taking children to school and fulfills

other social needs the government should cooperate to help those women who are dealing with *mchicha* cultivation by giving them education on modern farming (Robynne and Anderson, 2012). The finances organs like banks and individual sectors should find a reasonable way of reducing barriers to loans for married women who deals with cultivation of amaranthus (*mchicha*) (Jacobs and Nyanda, 2019). Also, there is a need to increase the availability of market for surplus of *mchicha* so as for them to be easy on selling their goods; infrastructures must be improved so as to easier the transportation of their goods from production area to the market (Robynne and Anderson, 2012).

Vegetables specifically amaranths have a huge potential for strengthening the economic situation of married women in Dar Es Salaam. Married women producing vegetables face many challenges, like the absence of strong support by government, lack of trainings to women on the cultivation of amaranths vegetables, unable to accesses loan from financial organization, lack of the use of advanced technology, lack of sensitization of potential consumers on the quality of amaranthus and lack of reliable market (Cheya and Guarino, 2012).

In general, the presence of pests and diseases and the absence of effective control measures and the lack of high-quality seeds are limitations in the cultivation of amaranth vegetables in Africa. Then, the government should eye mark on requirements of cultivating amaranthus regarding that it is very important vegetable for human health since it is reach source of nutrients and income generation to married women (Dinssa et al., 2018).

## **CHAPTER TWO**

### **PROBLEM IDENTIFICATION**

#### **2.1 Background of Research Problem**

Amaranthus (Amaranthus spp.) originates from Central America and was introduced to Africa in the 20th century. There are more than 60 species of amaranth worldwide. Amaranth is believed to have been a primary food for the Indians of Central America before the arrival of Christopher Columbus. However, its production was outlawed by the Spanish conquerors for political and social reasons (Onyango, 2014). It is said to have originated in Mexico, where it was cultivated for its grains, unlike the variety found in most parts of Africa, which grows wild and is used only as a vegetable. The Amaranthus family consists of more than 60 species, most of which are widespread weeds. Amaranthus does not belong to the grass family like other cereals, but produces seeds that are grains and are classified in the pseudocereal family (Dinssa et al, 2018).

Amaranthus is known for its high nutritional value, containing 75% of the nutrients required by the human body. Amaranthus grain has a high medicinal value and has proven itself in the treatment, management and prevention of various diseases. It is known to promote human growth and development, improve health and strengthen the body's immunity (Abukutsa-Onyango, 2014). Other benefits of amaranth include its special oil component, which is an important ingredient in the pharmaceutical industry; especially in the preparation of skin cosmetics. It is also used as a lubricant when servicing computers. Its chemical content is comparable to that of cod liver oil;



a preparation given to children to strengthen their immune system (Kansiime et al, 2018).

Poverty and food shortages are widespread in developing countries. Although significant progress has been made in eradicating poverty in countries such as East Asia and Southeast Asia in the last decades of the twentieth century, the extent and intensity of poverty today remains unacceptably high. More than 1.2 billion people in Africa, Asia and Latin America live in absolute poverty with an income of less than \$1 a day, and another 2 billion are deficient in one or more micronutrients (FAO, 2015). Of all the world's regions, poverty is the most difficult to manage in Africa, where half of its population of about 300 million people live on less than one dollar a day. There is therefore a need for the government in Africa to come up with policies that will reduce poverty (World Development Report, 2012).

Tanzania's long-term goal of food security remains unfulfilled. However, frequent droughts require a request for donor food aid to mitigate the ravages of famine; especially in arid and semi-arid regions. To stop the food and poverty situation among the rural poor, the government has come up with measures that include using drought-resistant crop varieties such as sorghum and amaranth (Odhong, 2015). One of the opportunities to be exploited among others in amaranth farming is the fact that it has the potential to contribute to food security, nutrition, health, income generation and therefore poverty alleviation. Amaranth cultivation has attracted much interest among stakeholders and farmers due to its potential economic value (Odhong, 2015).

In Tanzania, amaranth makes up about 5.3 percent of the total vegetables grown annually. Vegetables are grown in all regions of the country. Amaranthus can be consumed as a green vegetable or grain. The crop is easy to grow, tolerates heat, drought and salt and has few diseases. The grain is rich in protein from 16 percent, with a balanced content of amino acids. The leaves are high in micronutrients, including vitamin C, vitamin A, calcium, magnesium, potassium, iron and phosphorus. According to the Tanzania Agricultural Research Institute, Mikocheni Center (TARI Mikocheni), there are more than 20 local varieties of amaranth in Tanzania and four more improved varieties would be developed under the Amazing Amaranth Project (Daily News, 2020).

## **2.2 Statement of the Problem**

Amaranthus has been widely considered for its excellent nutritional value, its benefit to the sick, young and old is a well-known factor. Amaranthus is characterized by a high yield even in relatively dry areas within a short period of time. It is a new crop that has been introduced to smallholder farmers to increase crop diversity, create an additional source of income and improve food security and increase poverty levels. In Tanzania, married women have engaged in small-scale activities including growing vegetables such as amaranth and spinach to supplement their income. However, Farmers in Tanzania face similar challenges of soil conservation, climatic changes, and infrastructural problems, lack of inputs, medicines and a reliable market as when they cultivate amaranthus and when they grow other annual crops. The crop is being cultivated by a few farmers mostly for subsistence use and not for commercial purposes.

This study looked at the constraints faced by women farmers engaged in amaranth cultivation at Yangeyange Street in Ilala Town Council, Dar es Salaam Region. Specifically, the study examined limitations related to access to information, support services and market availability as the main drawbacks to its adoption and production. The study also looked at options that can be used to improve amaranth cultivation. The study was guided by the following research questions:

- i) How cultivation of amaranthus by women has led to income improvement at Yangeyange Street in Ilala city Council?
- ii) How do amaranthus women farmers market their produce?
- iii) What are the challenges and opportunities experienced by women farmers cultivating amaranthus in Yangeyange Street?

### **2.3 Project Description**

Income contribution through amaranth (mchicha) cultivation to women on Yangeyange Street in Ilala Municipal Council, Dar Es Salaam, Tanzania. The aim of the project was to evaluate the income benefit of amaranth cultivation (mchicha) for women. Amaranthus is known for its high nutritional value, containing 75% of the nutrients required by the human body. The grain has a high medicinal value and has proven itself as a tube in the treatment, management and prevention of various diseases. It is known to promote human growth and development, improve health and strengthen the body's immunity.

In Tanzania, amaranth makes up about 5.3 percent of the total vegetables grown annually. Vegetables are grown in all regions of the country. Amaranthus can be

consumed as a green vegetable or grain. The crop is easy to grow, tolerates heat, drought and salt and has few diseases. The grain is rich in protein from 16 percent, with a balanced content of amino acids. The leaves are high in micronutrients, including vitamin C, vitamin A, calcium, magnesium, potassium, iron and phosphorus. Seed companies sold 2.9 tons of amaranth seed in 2016, and 59% of that was World Veg-based germplasm. There are opportunities to improve amaranth production through the development and promotion of better varieties (especially resistance to white rust and leaf spot) and good agronomic practices (especially the use of certified seed, mineral fertilizers, seed and nursery treatments) (Ochienga et al, 2019).

The community living in Yangeyange Street has been growing amaranthus and other crops for a long time, but productivity remains low because they do not practice modern agriculture. The Community Development Agenda Countrywide (CDAC) program with funding from the Tanzania Agriculture Partnership (TAP) and Ilala City Agriculture Development (DADG) grants focused on combating income poverty and improving their livelihoods. The organization fully participated in the community needs assessment and priority setting process. The organization was to improve amaranth production by providing capital for amaranth breeding for one season. In addition, the researcher and four staff members, 3 from CDAC and 1 from Ilala Town Council, were to facilitate training for Yangeyange residents and support commercialization initiatives, market information and linkages among amaranth stakeholders.

The project was to start with 150 households, which is about 70 percent of the total households. Every 150 households had to cultivate two hectares, which means that 300 hectares were planned to be cultivated. Community members living in Yangeyange Street have selected six-member committee to manage the project in collaboration with Community Development Agent Countrywide (CDAC) members. The committee members also elected their leaders, including the chairman and secretary, to lead the projects. The necessary training was made possible through the district fund for capacity building of women, households and committee members, the committee was responsible for administration and assistance to other household members.

By adopting a modern farming method, amaranthus, a farmer can harvest 30 to 40 bags per hectare against the current yield of 7 to 10 bags. Ilala Town Council, Community Development Agenda Countrywide (CDAC) and other producers of vegetables such as tomatoes, onions, eggplant and okra have already negotiated for the company to buy all kinds of Amaranthus from Yangeyange Street. The other company is expected to purchase 60 bags of amaranth from Yangeyange Street. The beneficiaries of the project expect the establishment of an Agricultural Cooperative Association.

The community decided to start the project because it had the resources and it was easy to manage compared to the many benefits for the community. Amaranthus is a nutritious weed with proteins, minerals and vitamins that have made it one of the highly valued traditional vegetables. The protein content comes from the seeds.

Protein bioactive nutrients (components that cure diseases) are about 13.56 grams per 100 grams of seeds. Glycine is the most significant margin at around 1.6 grams.

Amaranth leaves are a rich source of vitamins and minerals. Vitamin C represents 5 percent of the daily requirement. Vitamin B6 for metabolic processes comes to 45 percent of the daily dose. The folate level is 21 percent, while the riboflavin level is 17 percent. Mineral Roundup contains calcium that supports strong teeth at 16 percent per serving. In Tanzania, amaranth is harvested young and tender to make salads. If one wishes, the harvest can wait until the leaves are old and cooked like cabbage or spinach. Leaf picking is done with gloved hands in the early morning hours. Older leaves also contain purple-colored seeds on the stalks, which are threshed out before delivery to the packing plant. Only green colored leaves are collected, discolored ones are left out. Yaangeyange street amaranth is sold in various markets in Dar es Salaam including Mbagala, Kijichi, Mbagala Kuu, Chamazi and Mbande. Other farmers use refrigerated vans to transport amaranth to the Julius Nyerere International Airport.

### **2.3.1 Target Community**

The project aimed to assess the contribution of Amaranthus (Mchicha) farming to income for women on Yangeyange Street in Ilala Municipal Council, Dar es Salaam. Amaranthus (Mchicha) is an important leafy vegetable in Africa grown by most farmers. Information on the genetic diversity of amaranth and its adaptation to different environments will help breeders develop improved commercial varieties that meet market demands. The distribution of the species in Africa is unclear due to

confusion over small morphological differences between various related species (Mburu, 2012). Amaranthus species have a C4 photosynthetic path way and perform well at high temperatures compared to C3 plants (Ebert et al. 2011).

The project was implemented by a group of women. The group was formed to support each other in times of emergency such as illness and death, but later transformed into a savings and loan society (VICCOBA). The small amount they saved was used as seed capital for the project. It was expected that through this project some of the problems mentioned in the first chapter would be solved, as they were all associated with low income. The project was implemented by a group of six (6) women under the general supervision of group leaders who were elected according to the group's bylaws. The municipal government was to provide overall leadership.

### **2.3.2 Stakeholders**

Stakeholders include all persons affected by the impact of the activity/project. These were individuals, groups, communities or institutions. Stakeholder groups consist of people who share a common interest, such as an NGO or community. Such groups often contain many subgroups. These subgroups may be affected by the project in different ways, and some subgroups may have a much greater influence on the impact of the project than others.

In this project, the participation of various stakeholders and their contribution to the implementation of the project was expected. However, the main stakeholder was to

be the Ilala Town Council, together with Amaranthus sellers and consumers provided technical support in their areas of responsibility Community Development Officer, Countrywide Community Development Agenda, Trade Officer, Cooperative Officer and Agricultural Extension Officers. in Ilala City Council. Another key stakeholder is the municipal government, which was supposed to provide general guidance and coordinate the group with municipal authorities.

### **2.3.3 Project Goals in CED terms**

The aim of the project was to assess the income contribution of Amaranthus (Mchicha) farming to women in Yangeyange Street through improved production. The higher income of married women was expected to contribute to the reduction of poverty among group members, thereby increasing their ability to afford basic household needs including shelter, food, clothing, education and health.

### **2.3.4 Project Objectives**

The objective of this study was to evaluate income generation through Amaranthus (Mchicha) farming by women on Yangeyange Street in Dar es Salaam City. Specifically, the study examined resource mobilization, farm preparation, harvesting and marketing of Amaranthus. The study also explored opportunities that can be used to improve women's development.

### **2.3.5 Specific objectives of Community Need Assessment**

- i) To determine the extent of resource mobilization among women engaged in amaranthus farming



- ii) To investigate the marketing strategies used by women engaged in amaranthus farming to maximize sales and earn income at Yangege Street in Ilala City Council
- iii) To identify the challenges and opportunities experienced by women farmers engaged in amaranthus farming at Yangeyange Street in Dar es Salaam City.

#### **2.4 Host Organization/CBO Profile**

The host organization is the Msongola Ward Office of the Ilala Town Council, which is responsible for the day-to-day administration and management of all social and economic development matters in the ward under the supervision of the Ward's Executive Officer, who is a civil servant. The ward and village leadership will provide an office for the group and will also coordinate communication and activities of other stakeholders to achieve the project objectives. The ward and settlement officials will liaise with the Agricultural Extension Officer, Community Development Officer, Business Officer and other stakeholders to ensure that the project is successfully implemented.

##### **2.4.1 Vision of the Host Organization**

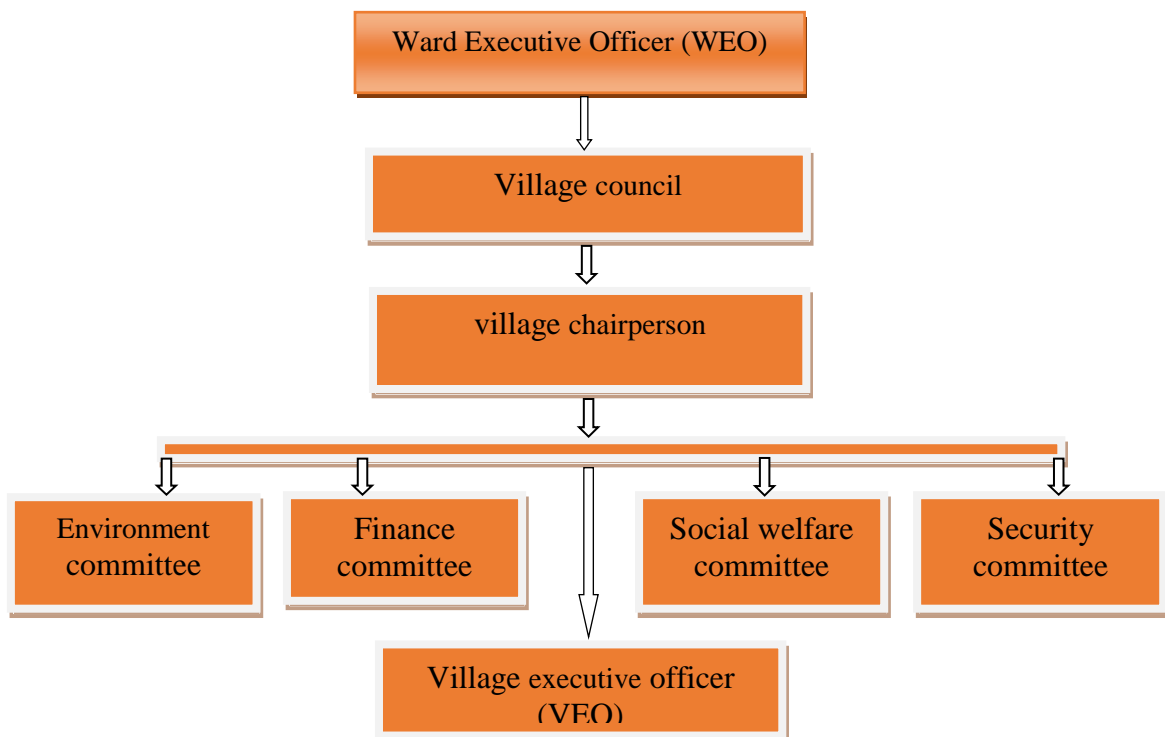
To become a leading organization in supporting community members to use available resources to improve their socio-economic development.

##### **2.4.2 Mission of the Host Organization**

To become a role model in the provision of socio-economic services to community members to ensure the social and economic development of the people for their well-being and prosperity.

### 2.4.3 Leadership and Organization Structure

The management of Msongola settlement was as follows: In the ward there is the ward executive officer (WEO), at the lower level there is the village council and the village chairman. There are four committees responsible for Finance, Social Security, Environment and Security. The municipal executive (VEO) as the coordinator of the activities of all committees. All day-to-day lower-level administrative matters were handled by the VEO. The organization of the settlement structure was as follows:



**Figure 2.1: Msongola Hamlet Leadership and Reporting Structure**

### 2.4.4 The Roles of CED Student

The main role of the CED students was to ensure that the planned interventions were successfully implemented as planned. Students were to do the following;

Sensitizing the community on the importance of mchicha/amaranth production as a source of income for the community.

- i) Participate in the mobilization of resources needed to facilitate the implementation of the project.
- ii) Consult various facilitators; especially the Community Development Officer, Agricultural Branch Worker and other workers to offer their skills to the community
- iii) To facilitate project documentation.

#### **2.4.5 The role of the host organization**

The roles of the host organization were:

- i) Demonstration of permission for the group to form and operate in the area
- ii) Providing guidance for group operations
- iii) Linking the group with stakeholders
- iv) Providing security
- v) Connecting the group with the Municipal Council administration.

#### **2.5 Summary**

The second chapter contained a description of the identified problem, the background of the problem and a description of the intended project. It also describes the target community of ten young single mothers and profiles other stakeholders. The chapter further describes the objective of the project, the beneficiaries and the method of their selection, and the aim and objectives of the project. The profile of the host organization was described, including its vision, mission and leadership structure. Finally, a summary of the strengths, weaknesses, opportunities and threats facing the host organization was provided.

## **CHAPTER THREE**

### **LITERATURE REVIEW**

#### **3.1 Introduction**

This chapter includes the reviewed literature and theories that guided the study and previous empirical studies conducted relevant to this study. Finally, the study will show a summary of the main ideas of the study.

#### **3.2 Definition of Key Terms**

##### **3.2.1 Income**

Income is the income that a business receives from the sale of its goods and services, or the money that an individual receives as compensation for their work, services or investments (Cordier & Santeramo 2018). Income is usually derived from the opportunity for consumption and savings obtained by the subject in a set time frame, which is generally expressed in monetary units (Turkish Statistical Institute, 2012).

##### **3.2.2 Hamlet**

A hamlet is a small human settlement. In Tanzania, hamlet is an urban settlement the equivalent of village in rural areas.

#### **3.3 Theoretical literature review**

##### **3.3.1 Rational Choice Theory**

The theory assumes that people are goal-oriented and goal-oriented. It also assumes that people have sets of hierarchically ordered preferences or utilities. When

choosing lines of conduct, people rationally calculate; the utility of alternative lines of behavior with respect to preferences; the cost of each of the foregone alternative conditions of utility and the best way to maximize utility (Jonathan, 2003).

The theory explains the farming of grain amaranthus by the small-scale farmers in Yangeyange Street in Ilala City Council. According to the theory, farmers will choose to grow amaranthus through rational calculations about the cost of its cultivation and alternatives in order to maximize the profit. The small-scale farmers will therefore adopt amaranthus farming if it has a ready market and gives good returns compared to other crops in the area.

### **3.3.2 Diffusion Innovation Theory**

Theory Diffusion of innovation is a theory that explains why and how any level of new ideas spread through cultures. Rodgers defines diffusion as “the process by which an innovation is communicated over time among members of a social system” (Rodgers, 1993). This theory has been applied in the rural context with the focus being the uptake of agricultural innovations such as new crops, hybrid seeds, fertilizers and herbicides. Diffusion of a new innovation, however, differs from adoption of the new technology in that it is the process by which new technology spreads among users whereas adoption is said to be an individual internal decision (Nelson and Winter, 1982).

A communication channel is the means by which a message gets from one individual to another. In this study, the communication channel used to convey ideas about

amaranth cultivation to farmers is the senior staff at Yangeyange Street in Ilala Town Council. The rate of adoption is the relative speed with which an innovation is adopted by members of a social system. This is usually measured by the length of time it takes for a percentage of the social system to adopt an innovation.

The extent of adoption, on the other hand, is measured by the number of farmers who have adopted the innovation and by measuring the area put under amaranth cultivation and the constraints they face. A social system is defined as a set of interconnected units engaged in joint problem solving to achieve a common goal (Rodgers, 1976). In this study, the interconnected social systems that work together are farmers, government officials in the agricultural department, Yangeyange Street leaders who introduced the crop to the area for the first time, farmers, traders or those who buy amaranth grain, as well as cooperatives that promote amaranth. agriculture through lending finance and consumers form a social system.

### **3.4 Empirical Literature**

#### **3.4.1 Cultivation of Amaranthus by Married Women and Income Improvement**

According to PEV (Poverty Eradication Commission), in Kenya as a commercial crop, Grain amaranthus has the ability increasing family income levels. Grain amaranthus oil is capable of being a major foreign exchange earner for our country. Its waste can be used in industries to make animal feeds for chicken, dairy cows, and rabbits. Apart from its high nutrition value the grain has medicinal qualities which can be utilized to make medicines for prevention and managing serious diseases. The

levels of farming in the community have high significant for achieving notable developmental changes (Kamindu, 2012).

Amaranthus is one of the most popular human food and surplus vegetables that has a ready market and the potential to provide a valuable new source of family income (Mburu et al, 2012). As familiarity with vegetable production technology increases, the rewards for developing agronomic skills will increase and the potential for increased financial rewards will increase. In promoting vegetable production, emphasis should be placed on the potential to provide good nutritious food for the family while developing the concept of marketing surpluses for cash. Gender Focused Initiatives in many developing countries, women and children are primarily engaged in vegetable cultivation (Ochieng et al, 2017).

It is important to ensure that they also participate in sharing the benefits of their work, especially as vegetable production enterprises become more commercialized. This requires women and youth to be involved in marketing their products, but also to maintain control over the money they earn. This will not only enable women to be more self-sufficient, independent and increase their ability to take care of the family, but also improve their social status in their families and in their communities. It can be essential to carry out some gender sensitization activities in the community so that people understand why it is important for people to be rewarded for their efforts. It may also be necessary to find innovative ways to strengthen women's control over their earnings, for example by promoting group savings (Gahakwa B, Kalihose, 2011).

### **3.4.2 Marketing of Amaranthus Produce**

Marketing is a general term used to describe the activities that lead to the sale of a product. It is the process of planning and implementing pricing, promotion and distribution programs to meet customer needs. It involves gathering information analyzing alternative outlets developing different products to compete in the market, defining the scope of the proposed market area and meeting consumer needs. Marketing is more than just selling a product or service. It is an essential part of business or agriculture. Even the best business will fail without a good marketing program. No agricultural issue is more widely discussed today than marketing (Nelson et al., 2018).

The market is a major challenge for the agricultural sector in Kenya. A perfect marketing system awaits a perfect production system. Poor production means poor marketing; therefore, marketing should be considered a necessary condition and not a result of production despite the quality and quantity of surplus available (Schreinemachers et al., 2017). Agricultural marketing includes services associated with the movement of the agricultural product to the consumer. It includes production planning, growing, harvesting, sorting, packaging, transportation, storage, agri-food processing, distribution and sales. All these activities are dependent on the exchange of information and the availability of finance. Marketing requires support by providing market infrastructure and providing market information.

Effective market information is a positive asset for farmers and traders. Up-to-date price information enables farmers to negotiate with traders and also facilitates the



spatial distribution of products from rural areas to cities and markets. Market infrastructure includes wholesale, retail and assembly markets and storage facilities. An efficient market infrastructure increases cost efficiency among traders. Most amaranth or small farmers focus on production without direct links to large buyers, which reduces sales potential. Although smallholder farmers have limited outlets, they can still find channels to choose to market their products (Lukumay et al., 2018).

The choice of marketing option depends on a number of aspects which include the availability of markets, the prices offered, the distance to the markets and the potential of the markets to absorb sales or shares. For grain amaranth breeders to be successful, a perfect market situation should prevail (Omar et al., 2019). This means that there must be many buyers, many sellers, defined products, a marketplace, and a market organization.

There is insufficient market information to small scale farmers due to their large numbers, inefficient communication systems and low levels of literacy (Schreinemachers et al., 2017). Providing information to small scale farmers maintains transparency and inclusiveness. Through information farmers are made aware of the availability of markets and they can easily access them and reduce their risks (*Ibid*). Information on markets will inform amaranthus farmers on market conditions, demand of the product, quantity, quality, prices and the opportunity available (Omar et al., 2019)

### **3.4.3 Challenges and Opportunities Experienced by Farmers Cultivating Amaranthus**

Many small-scale farmers including amaranthus producers face myriad challenges. Among key challenges is access to market. Small scale farmers do not have access or link with external market. Availability of information could reduce even technologies performance uncertainty in the case of grain amaranthus. Access to information on marketing prepares the farmer on market conditions, demand opportunities prices and therefore reducing their risks (Chika and Taremwa, 2012).

Poor infrastructure is another big problem. Farmers need better water infrastructure such as wells or pumps. Sadly, in most cases where irrigation water is available, it has to be carried in watering cans, which is only possible for a certain distance (about 80-100 meters, which was the maximum distance observed during fieldwork). Few urban farmers have access to tap water. Farmers complained very often about the quality of irrigation water (Goman and Folaya, 2016).

In addition, pests and diseases are a widespread problem, although most farmers complained about this problem only after being asked directly about the specific problems they had with it. It was observed that knowledge about diseases, pests and pest control is very low. One of the obvious consequences of lack of knowledge is the use of inappropriate means such as home-grown pesticides against diseases (Ochienga et al., 2015).

Another problem is soil erosion, which has been observed in several productive open spaces. In the Dar es Salaam area, the area's most susceptible to erosion processes

were found in the river valleys and their slopes. Surprisingly, none of the farmers interviewed mentioned soil erosion as the main problem of soil erosion. Some farmers terraced their land to facilitate cultivation and prevent erosion. Other erosion prevention methods in Dar es Salaam include digging ditches and building low borders around seedbeds. Apart from soil cultivation, another major reason that causes soil erosion is the need for sand as a construction attempt (Ochienga et al, 2019).

In addition, access to water limits female farmers from growing plant products such as amaranthus. Access to water is a major constraint to urban agriculture. Regular water supply is often not ensured. Many farmers depend on water from wells (groundwater) or rivers (surface water), with the result that a significant amount of open land is cultivated only during the rainy season. Tap water is available to a number of households and is also used for irrigation purposes, but many areas with easy access to water are already occupied, meaning access to these locations is limited. Moreover, especially in unplanned settlement areas, the supply of tap water is not permanent (Mburu et al, 2012).

### **3.5 Policy Reviews**

#### **3.5.1 National Agriculture and Livestock Policy 1997**

The objectives of the National Agricultural and Livestock Policy 1997 are:

- i) Ensure basic food security for the nation and improve national nutrition standards by increasing the production, quality and availability of food commodities

- ii) Improve living standards in rural areas through increased income generation from agricultural and livestock production, processing and marketing
- iii) Increase foreign exchange earnings for the nation by promoting the production and increased export of cash crops and livestock products.
- iv) To produce and supply raw materials to (domestic) industries (and expand) the sector's role as a market for industrial production.
- v) Develop and introduce new technologies that increase the productivity of labor and land.
- vi) Promote integrated and sustainable use and management of natural resources such as soil, groundwater and vegetation for the purpose of environmental protection.
- vii) Develop human resources within the industry to increase labor productivity and improve skills, awareness and morale.

### **3.5.2 Agriculture Marketing Policy 2008**

The vision of the Agricultural Marketing Policy 2008 is to have a competitive and efficient marketing system for agricultural commodities leading to rapid and broad-based economic growth. The mission is to develop agricultural marketing systems that influence agricultural production plans that respond to domestic and foreign market dynamics. The general objective of agricultural marketing policy is to facilitate strategic marketing of agricultural products while ensuring fair returns for all stakeholders based on a competitive, efficient and fair marketing system.

### **3.6 Specific Objectives**

The specific objectives of the agricultural marketing policy are:

- i) Stimulate the diversification and added value of agricultural products in response to growing and changing market demand.
- ii) Promote adherence to the quality, standards and grade of agricultural products to meet the demands of domestic, regional and international markets.
- iii) Reform the legal and regulatory framework governing agricultural marketing systems to take advantage of the opportunities offered by the multilateral trading system and regional trade arrangements
- iv) Strengthen, promote and support the establishment and development of agricultural marketing institutions.
- v) Encourage investment in agricultural marketing infrastructure Stimulate and facilitate the development of effective and efficient agricultural marketing information, research and intelligence systems for the development of existing and new agricultural markets.
- vi) Promote the development, adoption and use of risk management strategies in agricultural marketing;
- vii) improve access to agricultural marketing finance.
- viii) Identify and promote gap markets as a way to address agricultural commodity markets facing mature global markets;
- ix) Mainstream cross-cutting issues.

### **3.7 Chapter Summary**

This chapter reviews the literature starting with a theoretical literature review including urban agriculture - agriculture located within or on the outskirts of a city - includes horticulture, floriculture, forestry, aquaculture and livestock production. Market vegetable production in Dar es Salaam takes place in the open field of home garden production. The chapter also reviews the literature on green vegetable production, finding a market for Amaranthus and outdoor vegetable production and its importance. Considering the empirical literature review, the chapter addressed issues such as agriculture in Dar es Salaam, benefits and challenges of urban farmers in Dar es Salaam, challenges facing green vegetable production including pests, diseases, soil fertility, soil erosion and water access. It also covers the policy scene including the 1997 revision of the National Agricultural and Livestock Policy and the 2008 Agricultural Marketing Policy.

## **CHAPTER FOUR**

### **PROJECT IMPLEMENTATION**

#### **4.1 Introduction**

Effective implementation of any project depends on how well it is coordinated with key stakeholders, activities and institutional arrangements. This chapter is a summary of how the project was implemented step by step, including planning, implementation, resources used, key implementers and other logistical arrangements. Furthermore, a report on the implementation of the project is provided. The report highlights all stages of implementation, step by step and results. The results presented in this chapter are evidence of how the CNA objectives presented in the second chapter of this report have been achieved.

#### **4.2 Projects Output and Activities**

The output of the project is a community needs assessment report, a training report on the acquisition of resources on the mchicha (amaranthus) farm, including soil, seeds, fertilizers and work equipment. It also includes reports of young single mothers who were authorized to form and register a group, institutional arrangements and even open a bank account.

##### **4.2.1 Projects Outputs and Activities**

Several activities have been planned to achieve the objectives and outputs of the project, as shown in Table 4.1 of this report. While many project activities were successfully implemented and outputs achieved.

### **4.2.2 Project Products**

The products of the project are green vegetables that will be produced after carrying out the activities listed in Table 4.1. Other products include CAN report, amaranth (mchicha) production training report, purchased production tools, group composition, group registration certificate and group bank details documents.

### **4.3 Project Planning**

Project planning is the first and crucial step as it determines the effectiveness and efficiency of the project. A poor plan can result in either over-utilization of resources or failure to achieve project goals. In this project, planning included developing project objectives and deliverables, planning activities in a logical sequence, identifying the people responsible for each activity, identifying the resources needed and the amount of money required. Planning tools including project implementation plan, project budget, logical framework and Gantt chart.



**Table 4.1: Input, process, output**

<b>Objective</b>	<b>Process</b>	<b>Output</b>
Capacity building to 6 married women on effective ways on amaranth ( <i>Mchicha</i> ) production by the beginning of April, 2022	Community Needs Assessment (CNA) Report of married women trained ineffective ways for Mchicha production	Conduct and Prepare NA report, prepare for training on mchicha production and identification of Input.
To start amaranthus production by beginning of May 2022	0.5 acres of land acquired Tools production purchased <i>Mchicha</i> production Started	<ul style="list-style-type: none"> <li>• Mobilize funds to hire 1 acre of land</li> <li>• Rent one acre of land</li> <li>• Mobilize funds for buying tools</li> <li>• Purchase 5 hand hoes, 3 slashes, 5kg of seeds and 1 tonne of organic fertilizers, 1 generator, 100M of irrigation pipes</li> <li>• Farm preparation for Mchicha growth</li> </ul> <hr/> <ul style="list-style-type: none"> <li>• Prepare seed beds</li> <li>• Transplant the seedlings into the prepared farm</li> <li>• Weeding, spraying, pruning</li> <li>• Harvest</li> <li>• Sell</li> <li>• Keep sales record</li> </ul>
To facilitate Community group Formation by the end of June 2022	Group registered into CBO	<ul style="list-style-type: none"> <li>• Prepare group constitution and minutes</li> <li>• Submit application package to DED for registration</li> <li>• Obtain group office</li> <li>• Mobilize funds to open bank account</li> <li>• Submit application package to the Bank for account</li> </ul>

#### **4.3.1 Implementation Plan**

The project was implemented according to plan. The plan helped guide the implementation of the project in all phases. The plan clearly stated the activities to be implemented, the timing of the implementation of each activity, the required resources and the responsible person. Each activity was implemented according to plan, starting with the wider consultation with the Community Development Officer to create and register the group and link the group with other stakeholders, technical inputs were also consulted with the Agriculture Officer.

**Table 4.2: Project implementation Gantt chart**

Objective	Outputs	Activities	Project Months																							
			April,2022				May,2022				July, 2022				August, 2022				September, 2022				October,2022			
			W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4			
To strengthen capacity of ten married women in Ilala City Council	Community need Assessment	Conduct can CNA report preparation	■																							
	Married women training on amaranth Production	Prepare Training				■																				
		Amaranth prepared including seeds				■																				
Amaranth production starts by the end of April, 2022	Acquisition of one acre of land Purchasing farming implements	Land acquired			■																					
		Mobilizing funds to purchase farming implements.					■																			
	Planting of amaranths/mchicha	Purchase five hand halls and bags of seeds, organic fertilizer and one-horse pipe.					■																			
		Land clearing And tilling					■																			
		Prepare seed Beds					■																			
		Transplanting of the Seedlings					■																			
		Harvest amaranths/mchicha					■																			
		Sell amaranths/mchicha to buyers and keep sales Record					■																			
To facilitate community group formation by April, 2022	Group registered into CED	Conduct meeting on group formation					■																			
		Prepare group Constitution and minutes Submit application package to DED for Registration					■																			

**Source:** Field Data,2022

### **4.3.2 Inputs**

Various types of resources were mobilized and used during the implementation of the project. This includes human, financial and material and time. Human resources basically included leaders of Ilala Town Council, branch officers and community members who provided the manpower to implement the project. The funds were used for capacity building, transportation, purchase of tools, seeds, fertilizers, bag packing and land. The funds were also used to register the group and open and maintain a bank account. Materials used include farm implements, vehicles, seeds, fertilizers, pesticides and more. The space includes a plot of land where green vegetables were grown and office space provided by the settlement management.

### **4.3.3 Personnel Pattern**

The beneficiaries of the project were women from Yangeyange Street, Ilala City Council. Activities were supervised by group leaders with guidance from extension officers and council leaders. Group leaders included an elected president and assistant, a secretary and assistant, and a treasurer and assistant. The roles of each leader were specified in the constitution and are summarized in Table 7 of this report. Management and coordination of project activities was ensured by the Council, which is the host organization.

**Table 4.3: Leadership roles**

<b>Position</b>	<b>Roles</b>
Council Leaders	Overall administration and coordination of activities and Correspondence
Agricultural Extension Officers	Provision of technical directives and advise
Group Chairperson	Supervision of other group members, call for meetings and ensure all activities are implemented by considering the guidelines provided by leaders and extension officers
Group secretary	Keep group records and project documents, writing Meeting minutes
Group treasurer	Keep records on income and expenditure; collect and bank money from members contributions and other sources
Group members	Participation in all project activities for their own benefit

**Source:** Field Data, 2022

#### **4.4 Project Budget**

The project was TZS 3,170,500 equipped from different sources including VICOBA and Ilala City Council through the fund allocated specially for women. CED student and beneficiaries who are women. All cost estimates were conducted in a very participatory manner. The budgeting team involved the CED student, leaders of the project beneficiaries, community development officer, district TASF official, agriculture officer and the ward executive officer.

**Table 4.4: Budget**

<b>Objectives</b>	<b>Outputs</b>	<b>Activities</b>	<b>Resources</b>	<b>Quantity</b>	<b>Cost</b>
To build capacity to 6 Married women one effective ways for amaranth production	Community Needs Assessment CNA) Report	Conduct CNA Prepare CAN report	Transport Vehicle hiring & fuel) Personnel	4	500,000 160,000
	10 Married women trained ineffective ways for amaranth production	Prepare for training	Stationery Personnel Food	3	300,000 90,000 300,000
To start <i>mchicha</i> production	1 acre of land acquired	Mobilize funds to hire 1 acre of land Hire one acre of Land	Communication costs Funds		30,000 200,000
	Tools of Production purchased	Mobilize funds to Purchase tools Purchase 5 hand hoes, 3 slashes, 5kg of seeds and 1 tonne of organic fertilizers, 1 generator, 100 irrigation pipes	Communication costs Hand hoes 3 slashes Seeds Organic fertilizers Generator/pump Irrigation pipes	5 pcs 3 pcs	30,000 20,000 10,500 50,000 200,000 500,000 500,000
<i>Mchicha</i> Production started	Production started	Prepare/cultivate land for <i>mchicha</i> Growth	Funds to hire plough		80,000
		Prepare seed beds	Nil	0	0
		Weeding, spraying, Pruning and staking	Sprayer	1	100,000
		Harvest	Human		0
		Sell	Transport costs	Lump	100,000
<b>Grand Total</b>					<b>3,170,500</b>

## **4.5 Project Implementation**

### **4.5.1 Project Implementation Report**

The implementation of the project started in May 2022, details are given in the project implementation plan. All activities were implemented according to plan and in chronological order. MCED student and builders participated in all phases to ensure efficient and effective execution of project activities. In addition, regular supportive supervision was carried out to ensure that all deviations were corrected in a timely manner. Corrective actions taken as a result of effective supervision were timely and mentoring, coaching and training were in place. On the other hand, regular monitoring was carried out to evaluate the effectiveness of the project. Among the initiation steps of project implementation was the conduct of a CNA, assessing the needs of the community from which the project was designed.

In April 2022, the groups processed and acquired a plot of land of about one-acre pan. The following month, they prepared the ground for planting. At the same time and under the guidance of the Agriculture Officer, the group planted seeds in a well-prepared nursery. In two weeks, the seedlings were tall enough and ready to be thinned out and transplanted. All the while, group members watered the garden and weeded as needed. Meanwhile, the group was officially registered and opened a bank account.

**Table 4.5: Project implementation report**

<b>Objectives</b>	<b>Outputs</b>	<b>Activities</b>	<b>Implementation Status</b>	<b>Reason for Deviation</b>
To build capacity to 10 Married women on effective ways for amaranth production by the end of July 2019	Community Needs Assessment (CAN) Report 10 Married women trained in effective ways for amaranth Production	Conduct CNA	CAN conducted	N/A
		Prepare CAN report	CNA Report prepared	N/A
		Prepare for training	Preparations were done	N/A
		Conduct training on amaranth production and identification of Inputs	Training on amaranth production was done	N/A
To start amaranth production by the end of May, 2022	1 acre of land acquired  Tools of production purchased	Mobilize funds to hire 1 acre of land	TZS200,000 contributed by community members	N/A
		Acquire one acre of land	One acre of land acquired	N/A
		Mobilize funds to purchase tools	TZS1, 200,000 Mobilized for tools	N/A
		Purchase 4 hand hoes, 4 slashes, 6 kg of seeds and 1 organic fertilizers, 100M of irrigation Pipes	Tools purchased	N/A

**Source:** Field Data, 2022.



**Table 4.6: Project implementation report**

<b>Objectives</b>	<b>Outputs</b>	<b>Activities</b>	<b>Implementation Status</b>	<b>Reason for deviation</b>
	amaranth production started	Prepare/cultivate land for amaranth	One acre of land prepared for green vegetable growth	N/A
		Prepare seed beds	Seed beds prepared and Seeds sown	N/A
		Transplant the seedlings into the prepared farm	Seedlings Transplanted into prepared farm	N/A
		Weeding, spraying, pruning and staking	Weeding started	Spraying, pruning and staking not yet started. They will be done when due
		Harvesting	Not done	Harvest will be done in august 2018
		Selling amaranth	Not done	Selling will be done after harvest
To facilitate community group formation by June 2022	Group registered into CBO and registration certificate in place	Prepare group constitution and minutes	Group constitution and minutes prepared	N/A
		Submit application package to DED for registration	Application package submitted to DED and registration certificate obtained	N/A
		Obtain group office	Group Accommodated at VEO's office	N/A
	Open group Bank Account	Mobilize funds to open bank account	TZS50,000 Contributed	N/A
		Submit application package to the bank for bank account	Bank account opened	N/A

**Source:** Field Data, 2022

## **CHAPTER FIVE**

### **PROJECT PARTICIPATORY MONITORING, EVALUATION AND SUSTAINABILITY**

#### **5.1 Introduction**

Participatory monitoring and evaluation took place during the implementation of the project, in which all project participants were involved. A monitoring framework was prepared and monitoring was carried out quarterly using predetermined indicators. Stakeholders were involved for two main reasons, the first to instill a sense of ownership of the project and the second to increase the level of understanding of the project management process and ultimately to ensure accountability and sustainability.

#### **5.2 Participatory Monitoring**

During the implementation of the project, monitoring was carried out four times, which is a process of regular collection and analysis of information related to the performance of the project. The information gathered was used to assess the situation to see if there were any deviations so that they could be corrected in time. It helped identify challenges that were addressed in a timely manner to ensure that activities were on schedule. The information was also used to make informed decisions about the management of human, financial and material resources and in the formulation or revision of goals and objectives. In the case of amaranth (mchicha) production, community members fully participated in monitoring project activities.

### **5.2.1 Monitoring Information System**

The collected data was analyzed to create analytical information that was used by stakeholders in making sound technical and managerial decisions. Information was collected primarily through data collection tools and was discussed after analysis. Findings were discussed with community members during field visits. Records were kept by an MCED student and group secretary, with copies sent to the Community Development Officer. The settlement leader and agricultural official were also copied.

Some of the important information about the green vegetable (mchicha) production project was the number of community members trained, size of land acquired, land acquisition process, inventory of tools, records of funds collected and how they were spent, stakeholder inputs, activities undertaken, the amount of amaranth produced and sold (mchicha) and documentation for group registration and bank details. For record keeping, the community had a book kept by a secretary who was responsible for recording all information about the progress of the project.

### **5.2.2 Participatory Monitoring Methods Used in Monitoring the Project**

Monitoring allows project implementers and supervisors to record the progress of planned activities. Various methods including Participatory Rural Appraisal (PRA), Beneficiary Appraisal (BA) and Participatory Community Needs Assessment were used to monitor the green vegetable production project in Ilala Town Council, through which the community and other stakeholders shared their knowledge and experience on project management. Regular meetings were held at the prepared farm

to physically monitor progress and plan follow-up activities. Specifically, the Community Development Officer (CDO) used on-call monitoring to record the progress made during the preparation of group formation, which was required for group registration and bank account opening.

### **5.2.3 Participatory Monitoring Plan**

A monitoring plan was prepared as a guide for monitoring the project. Guides stakeholders on the nature of information to be collected, indicators, tools to be used and data sources in relation to project outputs and objectives. He further specified the time frame in which the monitoring was to be carried out and the responsible person.

### **5.3 Participatory Evaluation**

Participatory project evaluation is a systematic process of involving the community and stakeholders in examining the significance or value of the project and determines whether the predetermined goal and objectives have been achieved. Through evaluation, stakeholders learn what was actually achieved, what was not achieved and why, what was learned and what can be improved to improve future performance. Evaluation is part of the management process, which consists of planning, implementation and evaluation, which follow each other in an uninterrupted cycle until the project is completed.

Evaluation is usually done with respect to indicators that measure the success or failure of the project. In the case of the green vegetable (mchicha) production project in Ilala Town Council, project beneficiaries were involved in conducting a participatory community needs assessment and project identification. Although two

objectives have been met, there are still ongoing activities that will be carried out after all activities are completed in order to evaluate the achievement of the project objectives.

### **5.3.1 Performance Indicators**

The performance indicators of green vegetable (mchicha ) production in Ilala City council were divided into input, output and impact categories and are qualitative and quantitative. Input indicators included time (number of man-days), the amount of money spent and other resources used while output indicators included the number of community members trained, the amount of land acquired and cultivated, and tools purchased. Output indicators also included the amount to be harvested, sold and the amount of money to be generated from the sale of mchicha.

Finally, the exit indicator examined the group's registration certificate and bank details to prove that the group had been formalized. An indicator of the impact of this project is the improvement in living standards due to better income from the sale of mchicha.

### **5.3.2 Performance Indicators**

The performance indicators of green vegetable (mchicha) production in Ilala City Council were divided into input, output and impact categories and are qualitative and quantitative. Input indicators included time (number of man-days), the amount of money spent and other resources used, while output indicators included the number of community members trained, the amount of land acquired and cultivated, and tools purchased. Output indicators also included the amount to be harvested, sold and

the amount of money to be generated from the sale of mchicha. Finally, the exit indicator examined the group's registration certificate and bank details to prove that the group had been formalized. An indicator of the impact of this project is the improvement in living standards due to better income from the sale of mchicha.

### **5.3.3 Participatory Evaluation Methods**

This project had three objectives, namely to build capacity for 6 married women through vegetable production, start amaranth (mchicha) production and facilitate the formation of community groups. All activities for the first and third objectives have been completed. As mentioned earlier, the evaluation of this project has not been done because some activities are ongoing as mentioned in the project implementation report. The final evaluation to assess the success or failure of the project was to be carried out after the completion of all project activities in April 2022.

The evaluation would be carried out by beneficiaries in collaboration with other stakeholders using the Beneficiary Assessment (BA) and Participatory Rural Appraisal (PRA) approaches. A checklist of predetermined questions would be used to ask direct beneficiaries their views on how the project achieved its outputs, goals and objectives, and sustainability factors. Other methods to be used are direct observation, harvest control and sales records. These would provide a wide range of information on the progress and results of the project.

### **5.3.4 Project Evaluation Summary**

The project evaluation summary provides the achievement of the project based on the predetermined goal, objectives, outputs, activity performance indicators and

expected result. With the exception of a few ongoing activities under the second objective of this project, all activities for the first and third objectives have been completed and the objectives achieved. In general, the completed activities showed a strong commitment from the project beneficiaries and stakeholders in all phases of the project. All completed activities were implemented and completed according to the implementation plan. The final evaluation, which will be carried out after the completion of the activities in August 2018, will provide a clear assessment of the extent to which the objective has been achieved.

#### **5.4 Sustainability of the Project**

The sustainability of the project is assessed by looking at factors that would facilitate the project's continued operation and benefits for the beneficiaries even after the withdrawal of funders. We looked at the strategies in place, the ability of the community to manage the project and develop other income generating activities for the future using internal resources. To ensure sustainability, the CED student applied a participatory approach that empowered community members to the point that they could manage the project with minimal external support.

##### **5.4.1 Strategy for Project Sustainability**

There are various strategies for the sustainability of amaranth (mchicha) farming in Yangyange Street in Ijala Town Council. Strategies included involvement of CAN project beneficiaries, resource mobilization, project implementation and monitoring of activities. Another strategy was to engage senior staff to expand the skills and capacity building of group members in the areas of production and management. In

terms of financial sustainability, community members have agreed to contribute through VICOBA Bank loans, Ilala Town Council and keep the money for future expansion of the project. Other strategies included following the group constitution in day-to-day project management, involving the Council and formalizing the community as a registered CBO with a bank account were other key strategies to ensure the sustainability of the group and the project.

#### **5.4.2 Assessment of Project Sustainability**

The project sustainability assessment is part of the evaluation process, which should be carried out after the completion of all project activities in April 2022. However, some sustainability indicators were assessed at the beginning and during the implementation. Early indicators include the commitment of community members to work with other stakeholders to identify the project, follow the guidelines provided by branch staff, and be willing to contribute money to run the project. Other sustainability indicators have emerged at this stage and will be recorded after all activities are completed. For example, the economic sustainability of a project can only be assessed at a more advanced stage of the project, say after all the harvested green vegetables have been sold.

#### **5.4.3 Financial Sustainability**

The project was implemented by married women who received a cash transfer from PSSN twice a month. From this cash, the members agreed to make collective savings by contributing some money to run the project activities and still be used to expand the project operations as specified in the group constitution. In addition, funding will



be obtained from the sale of green vegetables and deposited for reinvestment by group.

#### **5.4.4 Institutional Sustainability**

The group was expected to abide by the articles of its constitution and continue to work under the supervision of the Ilala Town Council, which is a permanent institution within the government structure. As also noted during the review of the review process, the project had government support through various policies. By formalizing the group, it is clear that group members have access to any support from the government and other NGOs. The established CBO will have access to concessional loans and other capacity building opportunities, including training on various income-generating and entrepreneurial activities.

#### **5.4.5 Political Sustainability**

The project was supported by various government policies and implemented in a healthy political environment. The project had the full support of the political leadership, with some leaders contributing to its establishment. Therefore, political leaders were expected to support the group and their project; and they will perceive the community to establish similar projects to increase household income.

### **5.5 Chapter Summary**

This chapter was on project monitoring including the methods to be used, evaluation and sustainability.

## CHAPTER SIX

### CONCLUSION AND RECOMMENDATIONS

#### 6.1 Introduction

This chapter concludes with the findings of the study and recommendations for what to do in the future.

#### 6.2 Conclusion

Through a Participatory Community Needs Assessment (CNA), it was found that the biggest challenge facing married women in Yangeyange Village in Ilala Town Council is low income levels. This community is populated on the one hand by low incomes and on the other by overflowing domestic responsibilities. It was found that apart from taking care of their family responsibilities, most of them have to foot the bills of education, medicine and nutrition for their families which in most cases have 5 members on an average.

So, in an effort to increase the family's income, they came up with the idea of a group through which they implemented an amaranth (mchicha) farming project on a leased land at Yangeyange Street in Ilala Town Council. The choice to embark on mchicha farming considered various opportunities that emerged during the community participatory assessment. Some of the reasons for selection included favorable weather conditions for agricultural activities, fewer types of diseases affecting plants and animals, soil fertility, availability of markets and ancillary services. The presence of ongoing PSSN operations is another opportunity that

influenced the project, as the community received money from the program and used some of it as seed capital.

A theoretical and empirical literature review was conducted to gather existing knowledge and experience on poverty alleviation, income generation and amaranth (mchicha) farming. The knowledge gained added value in the implementation of amaranth (mchicha) breeding project in Ilala town council, available policies on poverty alleviation, horticulture, agricultural development policy, women empowerment, community development and the vision 2025 were also reviewed to measure on how the policy framework could affect the project.

Overall, available data shows that regardless of poverty eradication efforts, most Tanzanians; women in particular are mired in poverty. The revised poverty policy information is quite similar to that obtained during the CAN as discussed in the first chapter of this document and contributed to the successful implementation of the project. The implementation of the project was directly undertaken by about 10 widows under the supervision of elected CBO leaders and the coordination of Ilala Town Council, which was the host organization.

The project focused on building capacity for community members; and specifically, how best to organize them into a collective registered, self-sufficient economic group, immersed in growing vegetables, having an institute like CBO and having a bank account.

To facilitate the implementation of the objectives, the District Council as a major stakeholder has provided an Agricultural Extension Officer to offer all necessary advice on various aspects related to the production and marketing of green vegetables. A Community Development Officer was also available to provide community awareness and facilitate group formation and registration.

The implementation of the project started in May 2022 and followed the schedule. Land preparation for amaranth cultivation was carried out in May 2022 after the acquisition of the necessary agricultural tools. Irrigation was done with water from the Yangeyange Valley, which has permanent water. Weeding, spraying, pruning, staking, harvesting and sale of green vegetables were carried out in July, August and September according to the implementation plan.

Project activities were monitored using participatory methods including Participatory Rural Appraisal (PRA) and Beneficiary Assessment (BA). From the beginning, community members fully participated in the implementation of the predetermined project goals. The CED student, in cooperation with leaders from the host organization and the branch manager, participated in the daily monitoring of activities including capacity building, acquisition of land and tools, from preparation, transpiration and management, and finally the formal registration of the group to the CBO. While most of the activities were completed and both objectives were achieved, some activities were still ongoing and expected to be implemented at a later stage. These included irrigations, weeding, planting, disease control, harvesting and marketing of amaranthus (Mchicha). Completion of these activities in August

2018 would mark the achievement of all project objectives and allow for a final evaluation.

Some sustainability indicators of the project were evaluated at the beginning and during the implementation. Among the first indicators that were evident are financial sustainability, institutional sustainability and political sustainability. The community has demonstrated a willingness to work with other stakeholders to identify the project, follow the guidelines provided by branch officials, and be willing to contribute money to the project's operations. The host organization, with strong political support at corps level, played a leading role in coordinating all project activities.

Another live indicator of institutional sustainability is also group establishment, bank account and group registration as a CBO. Other sustainability indicators could not be detected at this stage and would be recorded after all activities have been completed. For example, the economic sustainability of a project can only be assessed at a more advanced stage of the project, say after all the harvested green vegetables have been sold.

The fellowship should be practically guided especially in planting and pest control. Relevant government departments should also assist CBOs and other nearby green vegetable (mchicha) growers by undertaking value addition activities for green vegetable gravy. This will help the green vegetables farmers get more profit. The available literature has also identified various problems faced by green vegetable

producers. The relevant state authorities are therefore advised to remove these challenges.

The success of this project should be a lesson to other groups that harm poverty; especially widows who are enrolled in TASAF. They should emulate the same paths of saving money, forming groups, starting income generating projects through which they will improve their income and reduce household poverty. Leaders in collaboration with community development officers and other stakeholders should lead awareness creation and community mobilization in line with the policy framework for the implementation of such projects.

With regard to future projects, it is strongly recommended to apply participatory approaches such as PRA and BA, which have proven to be an effective tool for engaging stakeholders in the identification, implementation, monitoring and evaluation of these projects. Using this approach increases the chance of project ownership and sustainability by allowing the community to come up with pressing needs and appropriate solutions. The experience of implementing the green vegetable production project has also shown that the community and other stakeholders are ready to work and contribute both materially and financially if things are transparent.

### **6.3 Recommendations**

The economic status of many married women in Ilala City Council is very poor and mitigating measures are needed to address the situation. For example, given that women have shown their interest and commitment to growing '*mchicha*' they need

soft loans to boost the business. Knowledge and skills on entrepreneurship should be imparted to women as they stand a better chance to venture in farming green crop vegetables where *mchicha* is of no exception.

Deployment of agriculture/field extension officers in collaboration with executive officers to women farmers should be a permanent agenda in Ilala City Council Authorities. Additional funding is required to support women involved in green crop vegetables; especially to ‘mchicha’ growers in Ilala City. The five per cent of all internally collected revenues meant for empowering women and youths should also be committed to women farmers.

Further study should be conducted in this area to unleash more opportunities available in green crop vegetables whose market demand in Dar es Salaam is high. More studies would help the decision /policy makers to come up with a clear-cut mechanism that would enable fully utilization of opportunities in green crop farming sub-sector.

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## APPENDICES

### Appendix 1: Participatory Assessment Questions

Kindly tick the appropriate)

1. Age of the respondent
  - a) 15-20
  - b) 21-30
  - c) 31-35
  - d) 35 – above
  
2. Marital status of respondents
  - a) Single
  - b) Married
  - c) Separated/Divorced
  
3. Educational status of respondents
  - a) No formal education
  - b) Elementary school
  - c) C. O level education
  - d) Higher education

### Community and economic evaluation

4. A source of income commonly performed by women in Yangyange Street
  - a) Growing vegetables (mchicha)
  - b) Small shop
  - c) Livestock breeding
  
5. Average monthly income of vegetable growers
  - a) 10,000-50,000
  - b) 50,000-100,000
  - c) 100,000-150,000
  - d) 150,000-200,000

e) 200,000 – above

6. Availability and market access

- a) Very adequate
- b) Adequate
- c) Moderately adequate
- d) Not adequate

7. How strongly do you agree or disagree with the growth potential of Mchicha in increasing the income of women in Yangeyange?

- a) Very strong
- b) Strongly
- c) Not strongly

8. Which of the following do you think is the main challenge in Mchicha's agricultural business?

- a) Insufficient capital
- b) Unreliable markets
- c) Lack of technical skills

**Appendix 2: Focus Group Discussion Guide**

1. What are the needs of the women in Yangyange street?
2. How can the needs you have mentioned can be addressed?
3. Which project is good for you to in order to increase your household income?
4. Why do you think the project you have mentioned is right for you?

**Appendix 3: Yangeyange Women in Picture**



**Harvest of mchicha ready for selling**



**Training/capacity building**





**Mchicha farm**

## Appendix 4: Research Clearance Letter

**THE OPEN UNIVERSITY OF TANZANIA**  
**DIRECTORATE OF POSTGRADUATE STUDIES**

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P.O. Box 23409  
Dar es Salaam, Tanzania  
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Date: 27<sup>th</sup> June, 2022

**Our Ref: PG201900664**

District Administrative Secretary,  
Ilala Municipal Council,  
Dar es Salaam.

**RE: RESEARCH CLEARANCE**

The Open University of Tanzania was established by an act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No. 55 in the official Gazette. The act was however replaced by the Open University of Tanzania charter of 2005, which became operational on 1st January 2007. In line with the later, the Open University mission is to generate and apply knowledge through research.

To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief background, the purpose of this letter is to introduce to you **AGNESS SALATIEL KAYOMBO** of registration number **PG201900664** pursuing a **Master of Community Economic Development (MCED)**. We hereby grant this clearance to conduct a research titled "**Income Generation Through Amaranthus (*mchicha*) Farming: A Case of Women Groups at Yangeyange Street in Dar es Salaam City**". She will collect data starting from 6<sup>th</sup> July 2022 to 8<sup>th</sup> September 2022 at Ilala Municipal Council.

In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O. Box 23409, Dar es Salaam. Tel: 022-2-2668820. We lastly thank you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours,

Prof. Magreth Bushesha  
**DIRECTOR OF POSTGRADUATE STUDIES**